APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,464	12/05/2001	Scott Hartop	9595.00	2776

			EXAMINER
26889 7590 09/21/2006			DIVECHA, KAMAL B

MICHAEL CHAN
NCR CORPORATION
1700 SOUTH PATTERSON BLVD
DAYTON, OH 45479-0001

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 June 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Arguments

Claims 1-26 are pending in this application.

Applicant's arguments filed June 30, 2006 have been fully considered but they are not persuasive.

In response filed, applicant argues in substance that:

a.   The combination of Du, Vaid and Ater does not teach or suggest each client monitoring each its own bandwidth, each client informing a succeeding client in the chain of that bandwidth, each client comparing its own bandwidth with the bandwidth of a preceding client in the chain, and each client, in response to a difference between the compared bandwidth, reordering its position among the clients in the chain (remarks, page 15).

In response to argument [a], Examiner disagrees in light of following:

<u>Claim 1 stands rejected as follows:</u>

As per claim 1, Du teaches the method comprising (Abstract): each client informing a succeeding client in the chain of that bandwidth (Figs.2a-2c; <u>each transceiver is informed of other transceiver's bandwidth</u>); and each client, in response to a difference between the compared bandwidths, reordering its position among the clients in the chain (Abstract, col.4, lines 9-55).

Du however does not explicitly teach a client monitors its own bandwidth.

Vaid teaches that a client monitors its own bandwidth (col.3, lines 8-24, Figs.9-11).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Du to explicitly teach a client that monitors it's own bandwidth as taught by Vaid in order to measure quality of service in transferring data over the internet (Vaid, col.2, lines 12-22).

One ordinary skill in the art would have been motivated to combine the teachings of Du and Vaid to provide a method to monitor the flow of information among a network of clients (Vaid, col.2, lines 56-67).

Du in view of Vaid does not explicitly teach comparing bandwidth between two users and a method of optimizing data streaming in a peer-to-peer architecture including a plurality of clients in a chain.

Ater teaches a method of optimizing data streaming in a peer-to-peer architecture including a plurality of clients in a chain and further teaches that in the peer to peer sharing, the peer monitors the bandwidth of another peer (Figs. 1-12, Abstract, col.4, lines 10-67).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Du in view of Vaid to instead monitor and compare the bandwidth of the user in a peer to peer architecture as taught by Ater in order to control the bandwidth of users in a peer to peer network (Ater, col.4, lines 50-67).

One ordinary skill in the art would have been motivated to combine the teachings of Du, Vaid and Ater in order to provide a system to control the bandwidth of users in a peer to peer network (Ater, col.4, lines 50-67).

Du, in particular teaches the reordering the position of each transceivers according to their bandwidth (see fig. 2a-2c). Du does not teach the process wherein the devices monitor their own bandwidth.

Vaid, discloses a system that is able to monitor the clients own bandwidth (col.3, lines 8-24, Figs.9-11). When Du is modified in view of Vaid, i.e. when the monitoring process of Vaid is implemented in Du, Du's devices will be able to monitor their own bandwidth.

Furthermore, when the combination of Du and Vaid is modified in view of Ater, the devices would be able to monitor their own bandwidth, compare their bandwidth with other devices, and reorder their position in a hierarchy.

Therefore, the combination of Du, Vaid and Ater does teach and disclose the limitations

as claimed in independent claims.

As such, the rejection is maintained.

Detailed Action

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-13,15-22,25,26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

by US Patent 5,640,384 issued to Du in view of US Patent 6,502,131 issued to Vaid et al.(Vaid)

in further view of US Patent 6,687,224 issued to Ater et al.(Ater).

As per claim 1, 16,25,26, Du teaches the method comprising (Abstract): each client

informing a succeeding client in the chain of that bandwidth (Figs.2a-2c;each transceiver is

informed of other transceiver's bandwidth);

and each client, in response to a difference between the compared bandwidths, reordering its

position among the clients in the chain(Abstract,col.4, lines 9-55).

Du however does not explicitly teach a client monitors its own bandwidth.

Vaid teaches that a client monitors its own bandwidth (col.3, lines 8-24, Figs.9-11).

Therefore it would have been obvious to one ordinary skill in the art at the time of the

invention to modify the teachings of Du to explicitly teach a client that monitors it's own

bandwidth as taught by Vaid in order to measure quality of service in transferring data over the

internet (Vaid, col.2, lines 12-22).

One ordinary skill in the art would have been motivated to combine the teachings of Du

and Vaid to provide a method to monitor the flow of information among a network of clients

(Vaid, col.2, lines 56-67).

Du in view of Vaid does not explicitly teach comparing bandwidth between two users

and a method of optimizing data streaming in a peer-to-peer architecture including a plurality of

clients in a chain.

Ater teaches a method of optimizing data streaming in a peer-to-peer architecture

including a plurality of clients in a chain and further teaches that in the peer to peer sharing, the a

peer monitors the bandwidth of another peer (Figs. 1-12, Abstract, col.4, lines 10-67).

Therefore it would have been obvious to one ordinary skill in the art at the time of the

invention to modify the teachings of Du in view of Vaid to instead monitor and compare the

bandwidth of the user in a peer to peer architecture as taught by Ater in order to control the

bandwidth of users in a peer to peer network (Ater, col.4, lines 50-67).

One ordinary skill in the art would have been motivated to combine the teachings of Du,

Vaid and Ater in order to provide a system to control the bandwidth of users in a peer to peer

network (Ater, col.4, lines 50-67).

As per claim 2, wherein each client identifies a preceding client in the chain to the

succeeding client in the chain (Du, Figs.2a-2c, 4a-4b).

As per claim 3, wherein a detecting client detects that its bandwidth is greater than that of the preceding client in the chain and, in response, opens a connection with a client upstream of the preceding client (Du, Figs. 2a-2c).

As per claim 4, wherein the detecting client identifies a succeeding client in the chain to the preceding client in the chain (Du, Figs.3a-7).

As per claim 5, wherein the preceding client opens a connection with the identified succeeding client(Du, Figs.3a-7).

As per claim 6, 19, wherein the or each of the connections is opened concurrently with pre-existing connections between clients in the chain (Du, col.4, lines 30-56).

As per claim 7,20, wherein after the or each concurrent connection has been made to a client, the or each associated pre-existing connection to that client is dropped (Du, Figs.3a-7, col.4, lines 30-56).

As per claim 8,21, wherein the client switches to reading local buffer memory before the pre-existing connection is dropped (Du, col.4, lines 9-27).

As per claim 9, wherein, in the reordered chain, the detecting client receives streamed data via the connection from the client that was upstream of the preceding client (Du,col.6,lines 15-67).

As per claim 10, wherein the detecting client sends streamed data to the preceding client (Vaid, col.2, lines 12-22). Motivation to combine set forth in claim 1.

As per claim 11,22, wherein the pre-existing connection between the preceding client and the detecting client is reversed (Du, Figs.3a-7).

As per claim 12, wherein a replacement connection is opened between the preceding client and the detecting client (Du, Figs.3a-7, Vaid, Fig.11-12). Motivation to combine set forth in claim 1.

As per claim 13, in the reordered chain, the succeeding client receives streamed data via the connection from the preceding client (Vaid, col.7, lines7-21). Motivation to combine set forth in claim 1.

As per claim 15, wherein a client replenishes its local buffer memory after the chain has been reordered (Du, col.1, lines 25-54, Vaid, Fig.10-19). Motivation to combine set forth in claim 1.

As per claim 17, wherein a client includes address-providing means for receiving and storing the address of a preceding or succeeding client in the chain and providing that address to, respectively, the succeeding or preceding client in the chain (Vaid, Figs.10-12).Motivation to combine set forth in claim 1.

As per claim 18, wherein the comparison means of a client is associated with connection means for receiving the address of, and opening a connection with, a client upstream of the preceding client if the comparison means detects that the bandwidth of its associated client is greater than that of the preceding client in the chain (Du, Figs.2a-2c, Vaid, Figs.10-13). Motivation to combine set forth in claim 1.

Claims 14,23,24 are rejected under 35 U.S.C. 103(a) as being unpatentable over by US

Patent 5,640,384 issued to Du in view of US Patent 6,502,131 issued to Vaid et al.(Vaid) in

further view of US Patent 6,687,224 issued to Ater et al.(Ater) in further view of US Patent

5,784,527 issued to Ort

Du in view of Vaid in further view of Ater does not explicitly teach as per claim 14,23,

wherein after the chain has been reordered, a client synchronizes a time code of data in local

buffer memory with a time code of data received from a new streamed data input source before

switching to data received from that source.

Ort teaches a client synchronizes a time code of data in local buffer memory with a time

code of data received from a new streamed data input source before switching to data received

from that source (col.2, lines 35-67).

Therefore it would have been obvious to one ordinary skill in the art at the time of the

invention to modify the teachings of Du in view of Vaid in further view of Ater to synchronize

the transfer of data from one terminal to another as taught by Ort in order to handle errors when

transferring data(Ort, col.2, lines 35-38).

One ordinary skill in the art would have been motivated to combine the teachings of Du,

Vaid, Ater, and Ort in order to provide a method to handle errors when transferring data(Ort,

col.2, lines 35-38).

As per claim 24, wherein a client comprises switch means responsive to the data

synchronizing means to switch to data received from the new streamed data input source when

the time codes are synchronized (Ort, col.2, lines 35-65). Motivation to combine set forth in

claim 14.

<center>Additional References</center>

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- Measurement-Based Optimization Techniques for Bandwidth-Demanding Peer-

  to-Peer Systems.

- Galand, et al., US 2004/0042402 A1: Local and Fast non-disruptive path

  switching.

- Dutta et al., US 2002/0073204 A1: Peer-to-Peer Data Networks.

- Ehrman et al., US 2002/0040479 A1: Streaming content in a peer-to-peer

  network.

<center>***Conclusion***</center>

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing
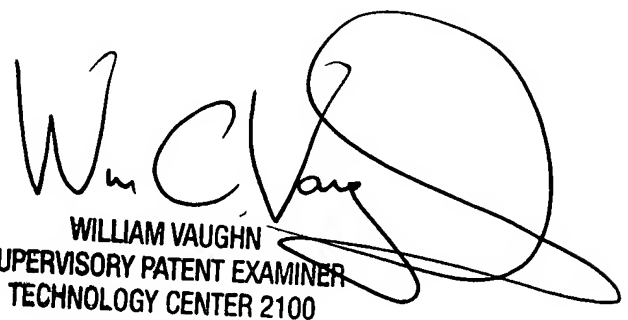
date of this final action.

　　　Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

　　　If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

　　　Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kamal Divecha
Art Unit 2151
September 18, 2006.

WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100